

What is claimed is:

1. ~~A chaffer having a frame and having a chaffer length and having a chaffer width,~~
for use in an agricultural combine having a fan blowing air through the chaffer for
chaffing of a crop, the chaffer comprising:
- 5 a plurality of air jets dimensioned and configured to provide an air blast; and
- a plurality of screens positioned between the air jets, at least one of the screens
- having a plurality of apertures dimensioned and configured to admit such
crop, the plurality of apertures having a minimal flow of air therethrough.
- 10 2. The chaffer of claim 1, further comprising:
- a plurality of individual chaffing elements positioned coterminously within such
- frame, each one of the plurality of individual chaffing elements having an
- element length and an element width.
- 15 3. The chaffer of claim 2, wherein each one of the individual chaffing elements
- positioned coterminously within such frame further comprises at least one of the
- plurality of air jets and at least one of the plurality of screens.
- 20 4. The chaffer of claim 3, wherein at least one of the plurality of air jets further
- extends laterally substantially across the width of the individual chaffing element.

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5. The chaffer of claim 4, wherein each of said chaffing elements further comprises:
a plurality of steps each having a riser portion and a tread portion, wherein at least
one riser portion of one step comprises at least one of the plurality of air
jets, and wherein at least one tread portion of one step comprises at least
one of the plurality of screens.
6. The chaffer of claim 5, wherein the angle of exhaust of at least one of the plurality
of air jets approximates the angle of air flow from such fan.
7. The chaffer of claim 1, wherein at least one of the plurality of air jets is too small
to admit such crop being chaffed.
8. The chaffer of claim 1, wherein at least one of the plurality of air jets is too
powerful to admit such crop being chaffed.
9. The chaffer of claim 1, wherein the plurality of apertures further comprise:
a portion of the surface area of the at least one screen in the range from 40% to
90% of the surface area of the plurality of screens, preferably from 60% to
80% of the surface area of the plurality of screens.
10. The chaffer of claim 1, wherein said air blast is perpendicular to the plurality of
apertures.

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11. The chaffer of claim 1, wherein said air blast is parallel to the plurality of screens.

5 12. A combine crop chaffer comprising:
a plurality of coterminously positioned removable chaffing elements.

13. The chaffer of claim 12, further comprising:
a frame having a length and a width, within which the plurality of chaffing
elements are positioned.

10 14. The chaffer of claim 13, wherein the frame further comprises:
a hinge pivot; and further wherein
at least one of said chaffing elements further comprises an element frame, the
element frame having an alignment notch therein, the alignment notch
15 being dimensioned and configured to engage the hinge pivot when the
chaffing element is properly positioned within the chaffer and further
dimensioned and configured to allow the chaffing element to then be
rotated until it is properly oriented within the chaffer.

20 15. The chaffer of claim 14, further comprising:
a spring located upon the frame, the spring dimensioned and configured to engage
the front end of at least one the plurality of chaffing elements when the chaffing

element is properly seated within the frame and the spring further urging the front end of the engaged chaffing element to rotate away from its seated position within the frame.

- 5 16. A chaffer having a frame and having a chaffer length and having a chaffer width, for use in an agricultural combine having a fan blowing air through the chaffer for chaffing of a crop, the chaffer comprising:
- at least one screen having a plurality of apertures dimensioned and configured to admit such crop, and
- at least one riser located adjoining the screen and substantially perpendicular thereto, the riser having positioned thereon at least one air jet dimensioned and configured to provide an air blast parallel to the screen.
- 15 17. The chaffer of claim 16, wherein the air jet is located at a distance from the joint of the screen and the riser, whereby the air blast parallel to the screen is displaced from the screen by the distance.